

What is claimed is:

- 5 1. A resorbable thin membrane comprising a substantially uniform composition comprising a polymer, the polymer being capable of resorbing into the mammalian body within a period less than about 24 months from an initial implantation of the membrane into the mammalian body, the polymer having a biased molecular orientation in the membrane that is biased to at least one axis and having a viscosity property that is greater than about 1
10 g/dL, the membrane having a first substantially-smooth surface and a second substantially-smooth surface, and the membrane being non-porous, and the membrane having a thickness of about 0.001 mm to about 0.300 mm as measured between the first substantially-smooth surface and the second substantially-smooth surface.
- 15 2. The membrane of claim 1, wherein the polymer comprises a substantially amorphous polymer.
3. The membrane of claim 1 wherein the polymer comprises a polylactide.
- 20 4. The membrane of claim 1 wherein the polylactide comprises a copolymer of L-lactide and D,L-lactide.
5. The membrane of claim 1 wherein the polymer comprises a copolymer of lactide and epsilon caprolactone.
- 25 6. The membrane of claim 3 wherein the molecular orientation of the polymer is biased toward one axis.
7. The membrane of claim 3 wherein the molecular orientation of the polymer is biased
30 toward two axes.

8. The membrane of claim 3 being about 0.010 mm to about 0.100 mm thick.
9. The membrane of claim 3 being about 0.015 mm to about 0.025 mm thick.
- 5 10. The membrane of claim 3 being about 0.020 mm thick.
11. The membrane of claim 3 wherein the membrane has a glass transition temperature, and a thickness of the membrane increases by at least 5 times when the membrane is brought to its glass transition temperature.
- 10 12. The membrane of claim 3 wherein the membrane has a glass transition temperature, and a thickness of the membrane increases by at least 10 times when the membrane is brought to its glass transition temperature.
- 15 13. The membrane of claim 3 being impregnated with an additive selected from the group consisting of a chemotactic substance for influencing cell-migration, an inhibitory substance for influencing cell-migration, a mitogenic growth factor for influencing cell proliferation and a growth factor for influencing cell differentiation.
- 20 14. The membrane of claim 3 being contained in a sealed sterile packaging.
15. The membrane of claim 3 further having at least one thick portion, each thick portion has a length equal to or shorter than the longest length of the membrane, a width greater than about 0.5 mm, and a thickness greater than about 2 times a thickness of a central area of the
- 25 membrane.
16. The membrane of claim 15 wherein the thick portion protrudes from both of the two substantially-smooth surfaces and forms at least a segment of an edge of the membrane.
- 30 17. The membrane of claim 15 wherein a first thick portion forms at least a segment of a first edge of the membrane, and a second thick portion forms at least a segment of a second

edge of the membrane.

18. The membrane of claim 15 wherein a thickness of the membrane increases more than 2 times when the membrane is brought to its glass transition temperature

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19. The membrane of claim 17 further comprising a plurality of holes disposed along the thick portion.

20. The membrane of claim 3 further comprising a plurality of holes disposed along an edge of the membrane.

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21. The membrane of claim 3 having a viscosity property greater than about 2 g/dL.

22. The membrane of claim 3 having a viscosity property of about 3 g/dL.

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23. The membrane of claim 3 having a non-uniform shrinking characteristic.

24. The membrane of claim 3 having a directional shrinking characteristic.

20 25. A resorbable thin membrane comprising a substantially uniform composition of a polymer extruded into a membrane, the membrane being capable of resorbing into the mammalian body within a period less than about 24 months from an initial implantation of the membrane into the mammalian body, the membrane having a viscosity property greater than about 1 g/dL, and further having a first substantially-smooth surface and a second
25 substantially-smooth surface and being about 0.010 mm to about 0.030 mm thick as measured between the first substantially-smooth surface and the second substantially-smooth surface.

26. The membrane of claim 25, wherein the polymer comprises a substantially amorphous polymer.

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27. The membrane of claim 25 further comprising at least one thick portion, the at least

one thick portion having a length equal to or shorter than a longest length of the membrane, a width greater than about 0.5 mm, and a thickness greater than about 2 times the thickness of the membrane at a region other than the at least one thick portion.

5 28. The membrane of claim 27 wherein the thick portion protrudes from both of the two substantially-smooth surfaces and forms at least a segment of an edge of the membrane.

29. The membrane of claim 27 wherein a first thick portion forms at least a segment of a first edge of the membrane, and a second thick portion forms at least a segment of a second
10 edge of the membrane.

30. The membrane of claim 27 wherein the thick portion is effective to provide rigidity to the membrane.

15 31. The membrane of claim 27 further comprising a plurality of holes disposed along the thick portion.

32. The membrane of claim 25 wherein the membrane is non-porous and comprises polylactide.

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33. A resorbable thin membrane comprising:
 a first substantially-smooth surface and a second substantially-smooth surface,
 wherein a thickness between the first and the second substantially-smooth surface is about 0.01 mm to about 0.300 mm; and

25 at least one thick portion, the at least one thick portion having a length less than or equal to a longest length of the membrane, a width greater than about 0.5 mm, and a thickness greater than about 2 times the thickness of the membrane at a region other than the at least one thick portion.

30 34. The membrane of claim 33 wherein the thick portion protrudes from both of the two substantially-smooth surfaces and forms at least a segment of an edge of the membrane.

35. The membrane of claim 33 comprising a first thick portion forming at least a segment of a first edge of the membrane, and a second thick portion forming at least a segment of a second edge of the membrane.
- 5 36. The membrane of claim 33 further comprising a plurality of holes disposed along the thick portion.
37. The membrane of claim 33, wherein the at least one thick portion comprises a plurality of thick portions and the membrane is constructed from a substantially amorphous polymer.
- 10 38. The membrane of claim 37 wherein the polymer comprises a polylactide.
- 15 39. The membrane of claim 38 wherein the polymer comprises a copolymer of a L-lactide and D,L-lactide.
40. The membrane of claim 37 wherein the polymer comprises a caprolactone.
- 20 41. The membrane of claim 37 wherein the polymer has a biased molecular orientation toward one axis.
42. The membrane of claim 37 wherein the polymer has a biased molecular orientation toward two axes.
- 25 43. The membrane of claim 37 being about 0.015 mm to about 0.025 mm thick.
44. The membrane of claim 37 wherein the membrane has a glass transition temperature, and a thickness of the membrane increases by at least 5 times when the membrane is brought to its glass transition temperature.
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45. The membrane of claim 37 wherein the membrane has a glass transition temperature, and a thickness of the membrane increases by at least 10 times when the membrane is brought to its glass transition temperature.
- 5 46. The membrane of claim 37 wherein the membrane is impermeable to a fluid.
47. The membrane of claim 37 further comprising an additive impregnated in the membrane, the additive being selected from the group consisting of a chemotactic substance for influencing cell-migration, an inhibitory substance for influencing cell-migration, a
10 mitogenic growth factor for influencing cell proliferation and a growth factor for influencing cell differentiation.
48. The membrane of claim 37 being contained in a sealed sterile packaging.
- 15 49. The membrane of claim 37 having a viscosity property greater than about 1 g/dL.
50. The membrane of claim 37 having a viscosity property greater than about 2 g/dL.
51. A resorbable scar-tissue reduction micro-membrane for attenuating a formation of
20 post-surgical scar tissue between a healing post-surgical site and adjacent surrounding tissue following an in vivo surgical procedure on the post-surgical site, the implant having a pre-implant configuration, which is defined as a configuration of the implant immediately before the implant is formed between the post-surgical site and the adjacent surrounding tissue, the implant comprising:
- 25 a substantially planar membrane of resorbable polymer base material having a first substantially-smooth side and a second substantially-smooth side, the substantially planar membrane of resorbable polymer base material comprising a single layer of resorbable polymer base material between the first substantially-smooth side and the second substantially-smooth side, the single layer of resorbable polymer base material having a
30 substantially uniform composition;
- wherein a thickness of the single layer of resorbable polymer base material, measured

between the first substantially-smooth side and the second substantially-smooth side, is between about 10 microns and about 300 microns;

wherein the single layer of resorbable polymer base material is non-porous; and

wherein the single layer of resorbable polymer base material consists essentially of a material selected from the group consisting of:

a lactide polymer; and

a copolymer of two or more cyclic esters; and

wherein the single layer of resorbable polymer base material is adapted to maintain a smooth-surfaced barrier between the healing post-surgical site and the adjacent surrounding tissue for a relatively extended period of time sufficient to attenuate or eliminate any formation of scar tissue between the post-surgical site and the adjacent surrounding tissue, and is adapted to be resorbed into the mammalian body within a period of approximately 24 months or less from an initial implantation of the implant into the mammalian body.

52. The resorbable scar-tissue reduction micro-membrane as set forth in claim 51, wherein the copolymer of two or more cyclic esters comprises lactide and epsilon caprolactone.